

LISTING OF THE CLAIMS

Claim 1-68 (cancelled)

Claim 69 (previously presented): A system for assisting neuromuscular function comprising:

- at least one EMG sensor for detecting self-actuation of a neuromuscular system;
- at least one joint position sensor for detecting self-actuation of a joint;
- at least one force sensor for measuring a parameter indicative of muscle resistance;
- a computer processor for implementing a protocol responsive when self-actuation or attempted self-actuation is detected by the at least one EMG sensor but is not detected by the at least one joint position sensor; and

- a motion causing device for assisting the at least one joint in movement, said motion causing device following the protocol implemented by the computer processor.

Claim 70 (cancelled)

Claim 71 (previously presented): The system of claim 69 further including an electronic memory system for storing information regarding the patient.

Claim 72 (previously presented): The system of claim 71 wherein the protocol is based on previous measurements recorded from at least one of the EMG sensor, joint position sensor, and force sensor.

Claim 73 (previously presented): The system of claim 69 further including at least one neuromuscular electrical stimulating (NMES) system for providing neuromuscular stimulation to the at least one neuromuscular system.

Claim 74 (previously presented): The system according to claim 69, wherein the motion causing device is an air-muscle.

Claim 75 (previously presented): The system according to claim 74, wherein the air-muscle includes at least one port for supplying pressurized air to inflate said air-muscle.

Claim 76 (previously presented): The system according to claim 75, wherein the computer processor controls at least one valve for controlling the supply of pressurized air to the air-muscle.

Claim 77 (previously presented): The system according to claim 69, further including a first display for depicting the electrical activity from the EMG sensor.

Claim 78 (previously presented): The system according to claim 77, further including a second display indicating a degree of flexor resistance torque measured by the at least one force sensor.

Claim 79 (previously presented): The system according to claim 78, wherein the displays provide a means for the patient to monitor the compliance and performance.

Claim 80 (previously presented): The system according to claim 79, wherein the controller updates the displays in a predetermined manner to provide a mechanism for the patient to improve said performance and said compliance.

Claim 81 (cancelled)

Claim 82 (previously presented): A system for assisting neuromuscular function comprising:
at least one joint position sensor for detecting self-actuation of a joint and measuring a joint motion;

a computer processor for implementing a protocol responsive when self-actuation is detected by the at least one joint position sensor and the measured joint motion has not achieved a predetermined value or when self-actuation is attempted and the measured joint motion has not achieved a predetermined value; and

a motion causing device for assisting the at least one joint in movement, said motion causing device following the protocol implemented by the computer processor such that the joint motion achieves the predetermined value.

Claim 83 (previously presented): The system according to claim 82, wherein the motion causing device is an air-muscle.